VSR /BBMP/YNK/W.No.003-001/2019-20 **Date: 19/11/2020**

CERTIFICATE

Division: Yelahanka

Sub Division: Yelahanka satellite Town Sub division

Ward No: 003

Job Code No: 003-20-000073

Name of Work: Construction of RCC drains and culverts at Amba Bhavani layout, Chowdappa layout and surrounding area in ward no: 03 Yelahanka satellite Town Sub division.

Running Account Bill: 2nd and Final Bill

Value of work completed by Contractor Amount: Rs 7,29,696.00/-

This is to certify that all the Items of Works have been carried out as per Specifications and Conform to MORTH.

for VSR Civil Infra Pvt. Ltd.

VSR CIVIL INFRA PVT. LTD. BANGALORE

(Authorized Signatory)

Project Management Consultants

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರ
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-106

Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20

Date: 14.10.2020

TEST REPORT

CLIENT	:	Executive Engineer, Yelahanka Division, BBMP, Bengaluru.
AGENCY	:	M/s. Technical Manager (West), KRIDL, Bengaluru
NAME OF THE WORK	:	Construction of RCC drains and culverts at Amba Bhavani layout, Chowdappa layout and surrounding area in ward no: 03 Yelahanka satellite Town Sub division.
SAMPLE ID	:	Cement (ACC – OPC 53 Grade)
DATE OF MANUFACTURE	:	September - 2020
DATE OF TESTING	:	12.10.2020 to 14.10.2020
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part -5)	130 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	420 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm
3	Standard Consistency	IS-4031 (Part -4)	30.00 %	-

Note:

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Consultants representative **Contractor representative** **Client Representative**

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Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20

Date 14.10.2020

TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West), KRIDL, Bengaluru**

Name of Work : Construction of RCC drains and culverts at Amba Bhavani layout, Chowdappa layout and surrounding area in ward no: 03 Yelahanka satellite Town Sub division.

Date of Testing 14.10.2020

Material : Sand

Total wt. of aggregates in gms = **1000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	42	4.20	4.20	95.8	90-100
2.36	132	13.20	17.40	82.6	75-100
1.18	164	16.40	33.80	66.2	55-90
600 Micron	182	18.20	52.00	48.0	35-59
300 Micron	255	25.50	77.50	22.5	8-30
150 Micron	148	14.80	92.30	7.7	0-10

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Job No.: CSC/BBMP/KRIDL/W.No.26/2019-20

Date 14.10.2020

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West), KRIDL, Bengaluru**

Name of Work : Construction of RCC drains and culverts at Amba Bhavani layout, Chowdappa layout and surrounding area in ward no: 03 Yelahanka satellite Town Sub division.

Date of Testing 14.10.2020

Material : 40mm Aggregates

Total wt. of aggregates in gms = **15000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	441	2.94	2.94	97.06	95-100
20	5121	34.14	37.08	62.92	30-70
10	5263	35.09	72.17	27.83	10-35
4.75	3652	24.35	96.51	3.49	0-5

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Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20

Date: 14.10.2020

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West), KRIDL, Bengaluru**

Name of Work : Construction of RCC drains and culverts at Amba Bhavani layout, Chowdappa layout and surrounding area in ward no: 03 Yelahanka satellite Town Sub division.

Date of Testing 14.10.2020

Material : 20mm Aggregates

Total wt. of aggregates in gms = **5000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
40	0	0	0	100	100
20	132	2.6	2.6	97.4	95-100
10	2365	47.3	49.9	50.1	25-55
4.75	2121	42.4	92.4	7.6	0-10

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Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20

Date: 16.10.2020

TEST RESULTS OF PHYSICAL PROPERTIES OF REINFORCEMENT STEEL

Client	:	**Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.
Agency	:	**M/s. Technical Manager (West),** KRIDL, Bengaluru
Name of Work	:	Construction of RCC drains and culverts at Amba Bhavani layout, Chowdappa layout and surrounding area in ward no: 03 Yelahanka satellite Town Sub division, BBMP, Bangalore.
Sample Identification	:	8mm,10mm,12mm Fe 500 TMT Bars
Technical Reference	:	IS 1786:2008, IS 1608:2005, IS 1599:1985 (Reaffirmed 2006)
Date of test	:	16.10.2020

S.No	Brand	Nominal size (dia in mm)	Mass per metre (kg/metre)	TENSILE STRENGTH		
				0.20 % proof stress/ yield stress ($N/mm^{2)}$	Tensile strength ($N/mm^{2)}$	Elongation, percent on gauge length
1	Fe 500	8	0.33	540	549	13.5
2	Fe 500	10	0.65	553	562	14.5
3	Fe 500	12	0.84	565	576	15

Remarks:

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Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20

Date: 12.11.2020

PRECAST SLAB 100mm Thick(CORE) TEST REPORT

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Contractor : **M/s. Technical Manager (West),** KRIDL, Bengaluru

Name of Work : Construction of RCC drains and culverts at Amba Bhavani layout, Chowdappa layout and surrounding area in ward no: 03 Yelahanka satellite Town Sub division, BBMP, Bangalore.

No.of Sample Tested : 03

Date of Testing : 12.11.2020

Techinical Reference : IS:516-1959 (Reaffirmed 1999), SP-24:1983.

Grade of Concrete : M_{20}

Sl.No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	80.00	0.365	2323.66	1.60	0.960	32.00	16.30	17.60	16.90	21.12
2	50.00	85.00	0.394	2360.74	1.70	0.960	33.50	17.06	18.43	17.69	22.11
3	50.00	90.00	0.422	2388.03	1.80	0.960	34.00	17.32	18.70	17.95	22.44

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Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20

Date: 26.10.2020

TEST REPORT ON CONCRETE CUBES

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West),** KRIDL, Bengaluru

Name of the work :Construction of RCC drains and culverts at Amba Bhavani layout, Chowdappa layout and surrounding area in ward no: 03 Yelahanka satellite Town Sub division.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	19.10.2020	26.10.2020	8.015	346.2	15.39
2	19.10.2020	26.10.2020	8.121	351.4	15.62
3	19.10.2020	26.10.2020	8.136	362.4	16.11

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Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20

Date: 26.10.2020

TEST REPORT ON CONCRETE CUBES

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West),** KRIDL, Bengaluru

Name of the work :Construction of RCC drains and culverts at Amba Bhavani layout, Chowdappa layout and surrounding area in ward no: 03 Yelahanka satellite Town Sub division.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	19.10.2020	26.10.2020	8.121	345.6	15.36
2	19.10.2020	26.10.2020	8.069	349.6	15.54
3	19.10.2020	26.10.2020	8.174	356.4	15.84

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Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20

Date: 16.11.2020

TEST REPORT ON CONCRETE CUBES

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West),** KRIDL, Bengaluru

Name of the work :Construction of RCC drains and culverts at Amba Bhavani layout, Chowdappa layout and surrounding area in ward no: 03 Yelahanka satellite Town Sub division.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	19.10.2020	16.11.2020	8.232	501.6	22.29
2	19.10.2020	16.11.2020	8.245	516.3	22.95
3	19.10.2020	16.11.2020	8.296	521.8	23.19

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Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20

Date: 27.10.2020

TEST REPORT ON CONCRETE CUBES

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West),** KRIDL, Bengaluru

Name of the work :Construction of RCC drains and culverts at Amba Bhavani layout, Chowdappa layout and surrounding area in ward no: 03 Yelahanka satellite Town Sub division.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	20.10.2020	27.10.2020	8.112	352.3	15.66
2	20.10.2020	27.10.2020	8.143	361.5	16.07
3	20.10.2020	27.10.2020	8.169	358.6	15.94

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Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20

Date: 17.11.2020

TEST REPORT ON CONCRETE CUBES

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West),** KRIDL, Bengaluru

Name of the work :Construction of RCC drains and culverts at Amba Bhavani layout, Chowdappa layout and surrounding area in ward no: 03 Yelahanka satellite Town Sub division.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	20.10.2020	17.11.2020	8.265	506.3	22.50
2	20.10.2020	17.11.2020	8.312	517.4	23.00
3	20.10.2020	17.11.2020	8.217	528.4	23.48

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Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20

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TEST REPORT ON CONCRETE CUBES

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

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Name of the work :Construction of RCC drains and culverts at Amba Bhavani layout, Chowdappa layout and surrounding area in ward no: 03 Yelahanka satellite Town Sub division.

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	20.10.2020	17.11.2020	8.196	499.6	22.20
2	20.10.2020	17.11.2020	8.212	503.4	22.37
3	20.10.2020	17.11.2020	8.254	516.3	22.95

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